NORTHEAST REGION GEAR RESEARCH PROGRAM
FY2000 Spending Plan and Progress Report

Expenditures: Proposed - $505.5K Actual - $198.8K Date - 7/13/00

OBJECTIVES:
Development and implementation of promising gear modifications is one of the main tools of the Northern Right Whale Recovery Plan, the Atlantic Large Whale Take Reduction Plan, and judicially mandated measures pertaining to right whale recovery. The Northeast Gear Research Program is investigating new gear modifications through various research sources including NMFS gear staff, contract services and cooperating fishermen. The Program will also undertake extensive field testing of promising devices and or procedures that are developed from any source. Close coordination with the fixed gear fishermen in the region will continue to be a primary goal for the program.

PROJECT #1: Degradable Rope

LEAD STAFF: Al Blott (ablott@efortress.com)

ACCOMPLISHMENTS AND PRODUCTS TO DATE

Date completed	Accomplishments and products

UPCOMING ACCOMPLISHMENTS AND PRODUCTS

Projected Date	Accomplishments and products
August 2000	Develop RFP for contract bids on feasibility study.
September 2000	Award contract for feasibility study.
March 2001	Contract final reports due.

PROJECT RESULTS
This project will investigate the feasibility of developing a rope with properties that could withstand the strain of commercial use, however, if a whale became entangled in it, it would disintegrate in a short period of time (possibly 2 to 6 weeks) as a result of its contact with the whale. This will be a multi-discipline project that will involve a feasibility, development and testing phase that may take several years to accomplish. Phase 1 will be a feasibility contract study that will be accomplished in FY00 using approximately $40K. Pending a satisfactory feasibility report, and with the approval of the ALWTRT, we would enter into a development phase in FY01, with a final testing phase occurring in FY02.

PROJECT #2: Mini-Projects

LEAD STAFF: Glenn Salvador (seadog@waveinter.com)

ACCOMPLISHMENTS AND PRODUCTS TO DATE

Date completed	Accomplishments and products
May 2000	Attend fishermen s association meetings to solicit ideas on gear modifications
June 2000	Initiate swivel weak link development.

UPCOMING ACCOMPLISHMENTS AND PRODUCTS

Projected Date	Accomplishments and products
September 2000	Begin testing of 250 swivels at 600 lb. breaking strength
November 2000	Prepare report on swivel testing.
March 2001	Contract final reports due.

PROJECT RESULTS

This project will solicit gear modification ideas from fishermen and provide funds to develop and test promising concepts. This is a successfully ongoing effort that was initiated in FY99. The first concept to be developed this year is development of a plastic swivel that is set to fail at the 600 lb and 1,100 lb breaking strengths established by the ALWTRT. The swivel must be designed so that when they fail, they leave a knotless bitter end to the buoy line. The goal is to provide funds for fishermen s ideas within 30 days of receipt, and provide a report back to fishemen within 60 days of testing their concepts.

PROJECT #3: Gear Testing

LEAD STAFF: Field Work - Glenn Salvador (seadog@waveinter.com)
Lab Work - John Kenney (john.f.kenney@noaa.gov)

ACCOMPLISHMENTS AND PRODUCTS TO DATE

Date completed	Accomplishments and products
May 2000	Develop and test feasibility of neutrally buoyant rope.
May 2000	Provided preliminary feasibility report and video.
May 2000	Began testing of neutrally buoyant rope.
May 2000	Deployed load cells in offshore lobster gear and northern gillnet gear.
May 2000	Began development of five new deep water load cells.

UPCOMING ACCOMPLISHMENTS AND PRODUCTS

Projected Date	Accomplishments and products
June 2000	Develop and deploy floatline weak links in gillnets.
June 2000	Develop and deploy net panel weak links.
June 2000	Develop outreach video on neutrally buoyant rope tests.
July 2000	Begin load cell testing of various gillnet anchoring systems.
June - September 2000	Test gillnet floatline weak links and Mega-floatline.
October 2000	Provide reports to fishermen and ALWTRT on project testing to date.

PROJECT RESULTS

This project has been, and will continue to be the heart of the Gear Research program. The original project goal was to better understand the existing forces exerted on fixed gear throughout the Gulf of Maine. We now have new gear ideas that need to undergo extensive testing before they are incorporated into the ALWTRP as a required or recommended item.

Specific items that fall under this project heading are:
New Load Cells - Five new load cells will be designed and built to work in deeper water and collect information for longer periods in the deeper offshore fisheries.
Neutrally Buoyant Rope - Floating line appears to be a factor in many entanglements. Sinking rope is a problem for some fishermen as it gets hung up or chafes on the hard bottom. We are working with rope manufacturers to develop rope with the correct specific gravity to remain off the bottom but not floating high enough to allow whales to swim underneath it. Quantities (200 coils) of the neutrally buoyant rope will be tested in all segments of the lobster and gillnet fisheries.
Gillnet Weak Links - The ALWTRT recommended that 1,100 lb weak links be required in the middle of all gillnet panels this year. We will be testing various means of complying with that requirement and providing the results to fishermen.
Gillnet Anchoring Systems - The ALWTRT also recommended that all gillnet strings under 20 net panels be required to deploy an adequate anchoring system to endure that the 1,100 lb weak link will fail. We will test the recommended anchoring systems to see if they work correctly.
Gillnet Mega-Floatline - Last season we designed a mega-floatline gillnet that precluded the use of floats which may be a factor in some entanglements. We will test these nets on an operational; basis this summer.
Load Measurements of Buoy Systems - The ALWTRT recommended certain breaking strengths for offshore lobster and gillnet gear that may be higher than necessary. We will use existing load cells to test the operational forces at the buoy of these fisheries to determine if a lighter breaking strength could be safely used.
Other Gear Testing - As new gear ideas surface either from Mini-Projects, contract work, or outside research, we will test the prototypes among the cooperating industry representatives.

PROJECT #4: Disentanglement Gear

LEAD STAFF: Al Blott (ablott@efortress.com)

ACCOMPLISHMENTS AND PRODUCTS TO DATE

Date completed	Accomplishments and products
March 2000	Ordered CO_2 activated lift bag for disentanglement team.

UPCOMING ACCOMPLISHMENTS AND PRODUCTS

Projected Date	Accomplishments and products
August 2000	Develop gear to assist in disentanglement.
As Possible	Test gear during a disentanglement attempt.
As Possible	Conduct load test during a disentanglement attempt.

PROJECT RESULTS
This project will test the forces exerted by an entangled whale on trailing gear. Will work with disentanglement team experts to support the development of tools and techniques that will help disentanglement efforts.

PROJECT #5: Timed Release Device

LEAD STAFF: - John Kenney (john.f.kenney@noaa.gov)

ACCOMPLISHMENTS AND PRODUCTS TO DATE

Date completed	Accomplishments and products
March 2000	Initiate contract to produce 3 timed release prototypes.
May 2000	March contract modified to produce and test 5 units.

UPCOMING ACCOMPLISHMENTS AND PRODUCTS

Projected Date	Accomplishments and products
August 2000	Build 5 units timed release prototypes.
September - October 2000	Test units on gillnet and lobster gear.
December 2000	Prepare report for fishermen and ALWTRT.

PROJECT RESULTS

A timed release device for use at the bottom of the buoy line of fixed gear has been under development. This project will continue that development by building, testing and refining up to five prototype units for laboratory testing and field evaluations under full operational conditions.

PROJECT #6: Thwartable Link Device

LEAD STAFF: - Al Blott (ablott@efortress.com)

ACCOMPLISHMENTS AND PRODUCTS TO DATE

Date completed	Accomplishments and products

UPCOMING ACCOMPLISHMENTS AND PRODUCTS

Projected Date	Accomplishments and products
August 2000	Build 5 units from prototype.
September - October 2000	Test units on gillnet and lobster gear.
December 2000	Prepare report for fishermen and ALWTRT.

PROJECT RESULTS

A thwartable link device for use at the bottom of the buoy line of fixed gear has been developed from FY-99 funds. This project will build five working units from the prototype and test them in operational situations.

PROJECT #7: Acoustical Release

LEAD STAFF: - Glenn Salvador (seadog@waveinter.com)

ACCOMPLISHMENTS AND PRODUCTS TO DATE

Date completed	Accomplishments and products

UPCOMING ACCOMPLISHMENTS AND PRODUCTS

Projected Date	Accomplishments and products
June - July 2000	Test off-the-shelf devices.
August 2000	Prepare report for fishermen and ALWTRT.

PROJECT RESULTS

An acoustical release company (Mooring Systems Inc.) has asked us to test their existing release devices among cooperating fishing industry representatives. We will arrange to have the devices tested, get feedback from the fishermen back to Mooring Systems, and have them prepare a report to the fishermen and the ALWTRT on the feasibility of their devices meeting fishermen s specifications and estimated cost per unit.

PROJECT #8 - Acoustical Release Feasibility Study

LEAD STAFF: - John Kenney (john.f.kenney@noaa.gov)

ACCOMPLISHMENTS AND PRODUCTS TO DATE

Date completed	Accomplishments and products

UPCOMING ACCOMPLISHMENTS AND PRODUCTS

Projected Date	Accomplishments and products
August 2000	Prepare RFP for publication.
September 2000	Select contractor.
January 2001	Contract feasibility report for fishermen and ALWTRT.

PROJECT RESULTS

An acoustical release device was developed with FY-98 funds. However, the per unit cost of the devices was too expensive. This project will ask contractors to investigate the feasibility of an acoustical release device that meets fishermen s operational criteria and can be manufactured for a reasonable cost.

FY-00 GEAR RESEARCH BUDGET

Project	Estimated	Actual
1. Degradable Rope	$55.0K	$0K
2. Mini-Projects	$35.0K	$28.0K
3. Gear Testing		
Neutrally Buoyant Rope	$65.0K	$47.3K
Floatless Gillnets (100 nets)	$65.0K	$15.0K
Gillnets with Weak Links in Floatline (100 nets)	$65.0K	$15.0K
New Load Cells (5)	$42.0	$39.6K
Load Cell Testing of Buoy Lines	$25.0K	$12.6K
Gillnet Anchoring System Vessel Contracts	$50.0	$15.0K
Travel	$18.0K	$4.9K
Gear Testing Sub-Total	$330.0K	$149.4K
4. Disentanglement Gear	$18.0K	$2.3K
5. Timed Release Device	$22.5K	$19.1K
6. Thwartable Link Device	$15.0K	$0K
7. Acoustical Release	$15.0K	$0K
8. Acoustical Release Feasibility Study	$15.0	$0K
TOTAL	**$505.5K**	**$198.8K**